Lat 40.88686 Lon -122.76695

United States Department Of Agriculture | Forest Service | Shasta-Trinity National Forests

Reply To: 3420 Date: January 19, 1990

Subject: Evaluation of Pest Conditions in Alpine View Campground, Weaverville Ranger District (Rept. N90-1)

To: Forest Supervisor, Shasta-Trinity NFs

On December 12, 1989, Dave Schultz, entomologist, and I visited Alpine View Campground, Weaverville Ranger District, with Dean Price, Recreation Officer, and Marla Schardin, Recreation Technician, from the District. Alpine View Campground is near Covington Mills on the shore of Clair Engle (Trinity) Lake (T. 35 N., R. 8 W., section 15).

The District is preparing a vegetation management plan for the campground and wanted input on forest insect and disease conditions and management actions that would address any problem areas. The long-term objective for the vegetation is to convert from a stand with large, declining, older trees to a smaller, younger, and healthier stand with a maximum tree size of approximately 18 inches dbh.

The present mixed conifer stand on the site has three layers. The upper layer is composed of Douglas-fir (70%), ponderosa pine (20%), sugar pine (10%), and incense-cedar (<1%) that are overmature and exceed 150 feet tall. Diameters exceed 30 inches bh. Old spike tops are present in some of these trees. The second layer has the same species plus a small component of black oak. The proportions are about the same, although the amounts of sugar and ponderosa pines are reversed. The third layer is made up of seedling through small pole-size trees. Douglas-fir is the main species, with minor components of sugar pine, incense-cedar, and live oak. Shrub species include live oak and deerbrush.

Several forest insects and diseases were observed in the campground vegetation. Locations of the more significant pests are noted on the enclosed map. The most commonly observed pest was Phellinus pini, cause of red ring rot. It was observed mainly on large Douglas-fir, but was occasionally seen on sugar and ponderosa pines. Dead and declining Douglas-firs were infected by black stain root disease, caused by Ceratocystis wageneri, around units 39, 41, and 43. This was not a typical root disease center, but rather appeared to be individual infected trees in the same general vicinity. Many of the small sugar pines had dead twigs and foliage, similar to what might be caused by blister rust (Cronartium ribicola). Cankers were not evident and it is believed the damage was caused by heavy infestation of scale insects (Matsucoccus sp.). A few blister rust cankers were observed on the boles of sugar pines nearer the lake, but its occurrence was not heavy. Recent rust infections were not seen. Other insects and diseases observed included schweinitzii butt rot (caused by Phaeolus

schweinitzii), western pine beetle (Dendroctonus brevicomis), red turpentine beetle (D. valens), and flatheaded fir borer (Melanophila drummondi).

A single prescription for the campground is not necessary. Although the vegetation is relatively homogeneous, there is enough variation that different areas can receive different treatments. At least three aggregations of vegetation are present in the campground. One of these areas supports large trees that are still in relatively good condition, such as area 1 on the map. A different aggregation is around area 2 on the map and includes large trees that are declining and/or have dead tops. A third area is in the loop with units 50-66. Here there is a well-stocked component of smaller size class trees with fewer large overstory individuals. Treatments should be directed toward individual aggregations and not be applied across the campground.

MANAGEMENT ALTERNATIVES

1. No Action. The existing conditions in the campground would continue. Periodic removal of dead trees would be necessary. The large, overmature trees would be likely candidates, although smaller individuals would also die and need to be removed. Many of the seedling-sapling trees will be suppressed and stagnate or die. During periodic droughts, mortality levels can be expected to increase from increased insect activity. Pines will more likely be attacked and killed than Douglas-fir during these times. Trees in overstocked aggregations will be especially susceptible to this situation. Removal of dead trees would result in damage to residual trees that would also need to be removed. Felling large trees would create openings in the stand in some locations. Advance regeneration around these openings may respond to this release. Some new regeneration may also occur in these openings. Some damage to facilities would also likely occur. Even though there is considerable red ring rot, tree hazard and failure is not believed to be a significant factor at this time. Sugar pines with blister rust bole cankers would develop dead tops or die completely. Some additional mortality of Douglas-fir in the vicinity of the black stain root disease infections can be expected.

2. Remove Large Overstory Trees. Large, declining trees in the upper canopy class would be removed. This includes trees with dead tops and/or scattered dead branches in the crown. Trees of apparently poor vigor (poor needle retention, low live crown ratio) and declining crowns may also be removed. The need for annual entries to remove dead trees would be reduced for the next several years. Where several trees are to be removed in proximity to each other, directional felling into the same opening may reduce damage to the residual stand. Additional mortality may be reduced slightly because of the reduced competition for soil moisture and light with the removal of some live trees. This will be a limited benefit in the immediate area where live trees are removed.

3. Vegetation Management. Silvicultural prescriptions would be prepared for the campground to convert the vegetation to a healthier stand of trees with a smaller average size. The first entry should plan to remove the declining, overmature trees in the campground. This would include trees with dead tops, dead and dying branches, or other conditions that indicate decline. The large

overstory individuals that are still in apparently good condition can be retained. Removal of some of the large trees will result in damage to parts of the residual stand and lead to the creation of small openings. Vegetation remaining in and around these openings should be evaluated to determine the desirability of retaining any of it or the need for regeneration efforts. Species to regenerate in these openings should be either ponderosa pine or Douglas-fir. If rust resistant sugar pine stock is available, it would be a third species to consider for planting. A species mix should be attempted in each opening, but the size of the opening and penetration of sunlight should be considered when determining the species proportions. More open sites can be regenerated more heavily to ponderosa pine, if desired. Where sunlight is limited, Douglas-fir should be favored. If black oak seedlings can be obtained, they should be considered for regeneration efforts also.

Stocking throughout the campground should be adjusted to levels appropriate for the site. Where large, overstory trees are being retained, this means that most of the surrounding suppressed and intermediate trees should be removed to reduce competition on the overstory. Any codominants should be closely scrutinized as future replacement trees and those in good condition and locations retained. In situations where large overstory are being removed, then stocking levels should be adjusted to promote the growth of the smaller replacement stand. In areas where the stand is smaller and in good condition, a commercial and precommercial thinning may be appropriate.

Healthy, well-formed black oaks occur in a few locations in the campground. These trees will survive longer and remain in sounder structural condition if they receive full sunlight and little competition. Removal of conifers around a few black oaks would increase the probability of retaining the oaks in the campground over an extended period of time.

In all situations where a smaller size class is being retained or encouraged, several criteria should be followed in selecting leave trees. In general, leave trees should have a good appearance. This includes good needle retention ($\geq$ 3 years), an adequate live crown ($\geq$ 40% live crown ratio), pointed to rounded top, few dead branches scattered through the crown, and the crown should not be one-sided. They also should not have basal wounds or conks of red ring rot, if possible. Preferences should be given to trees in the codominant crown class, although trees in the intermediate class may be satisfactory if they have good crown characteristics. Suppressed trees should be avoided as leave trees.

PEST-SPECIFIC MANAGEMENT ACTIONS

The following activities may be implemented regardless of the alternative selected.

1. Stump Treatment. All freshly cut conifer stumps in developed recreation areas of Region 5 are required to be treated with borax (see FSM 2303.14 R-5 Supp. 164). This will aid in preventing the introduction of annosus root disease into the recreation area.

2. Sugar Pine Pruning. Most of the sugar pines in this campground are susceptible to white pine blister rust, a lethal disease. Pruning branches from selected sugar pines may increase the likelihood of survival of some of these trees. Trees suitable for pruning are those between 8 and 32 feet in height that do not already have infections of their bole. Also, trees with branch infections where the canker margin is 4 inches or less from the bole should not be pruned. Trees need to be individually identified for suitability for pruning. The following criteria will aid in that identification process and provide pruning guidelines.

a. Do not prune trees that have bole cankers, branch cankers within 4 inches of the bole, or branch cankers in the upper 50% of the crown.

b. Only prune those trees that are being favored as replacement trees. This may require thinning around these trees to increase their growth.

c. When pruning, remove all branches up to 50% of tree height or 18 feet, whichever is less.

3. Pine Slash Treatment. If silvicultural treatments in the campground generate green slash over 3 inches diameter from any species of pine, certain slash treatments will reduce the risk of mortality of residual pines from pine engravers, Ips spp. Treatments which have been feasible under campground conditions include:

a. Chip the slash over 3 inches diameter.

b. Haul the slash over 3 inches diameter at least 1/4 mile away from the campground. This procedure will only move the potential problem from one location to another unless the slash is burned within 6 weeks of cutting, or if there are no valuable pine trees near the area where the slash is relocated.

c. Remove all limbs and foliage from the pine slash. Buck stems and limbs over 3 inches diameter into pieces 18 to 24 inches long. Lay pieces flat on the ground in full sunlight. This procedure is most effective during the summer and fall. The probability of having some mortality from pine engravers increases with the amount of pine slash left on the site.

If you have any questions about this evaluation or need additional assistance, please contact Gregg DeNitto (916-246-5101) or Dave Schultz (916-246-5087) in the S.O.

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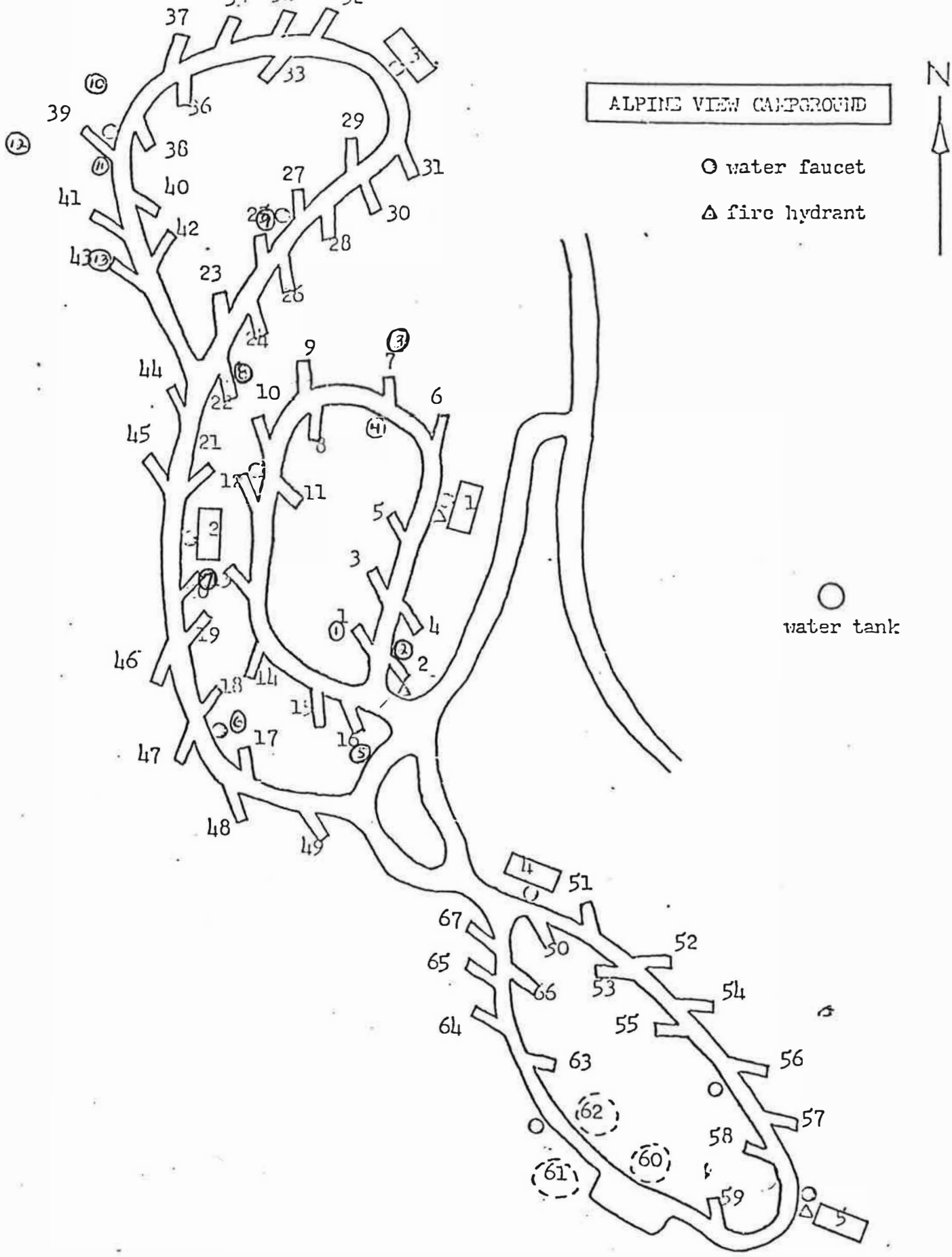
ALPINE VIEW CAMPGROUND
water faucet
fire hydrant
water tank
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